Large Language Models in Finance: A Survey

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Abstract

Recent advances in large language models (LLMs) have opened new possibilities for artificial intelligence applications in finance. In this paper, we provide a practical survey focused on two key aspects of utilizing LLMs for financial tasks: existing solutions and guidance for adoption. First, we review current approaches employing LLMs in finance, including leveraging pretrained models via zero-shot or few-shot learning, fine-tuning on domain-specific data, and training custom LLMs from scratch. We summarize key models and evaluate their performance improvements on financial natural language processing tasks. Second, we propose a decision framework to guide financial professionals in selecting the appropriate LLM solution based on their use case constraints around data, compute, and performance needs. The framework provides a pathway from lightweight experimentation to heavy investment in customized LLMs. Lastly, we discuss limitations and challenges around leveraging LLMs in financial applications. Overall, this survey aims to synthesize the state-of-the-art and provide a roadmap for responsibly applying LLMs to advance financial AI.